"Creating excellence, embracing all."

SUBJECT POLICY FOR SCIENCE 2026

Subject Lead : George Griffiths
Curriculum Action Team: STEM
Headteacher : Jo Reid
Chair of Governors: Sue Miller
Renewal date: Oct 2027

Policy determined
Botley School governing board

Botley School Vision statement

A high-quality education in a positive and happy school, where everyone is included, celebrated and encouraged to be a creative lifelong learner.

Botley School Values

Inclusivity Teamwork Kindness Respect Resilience Creativity

Botley School Science Policy

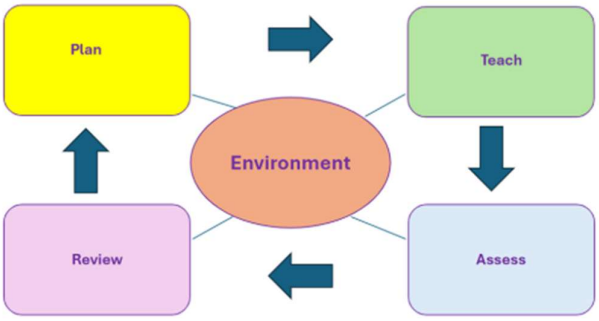
Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less. — Marie Curie

Science Vision statement:

Our vision is to teach, encourage and develop children's minds to be curious and enthusiastic about science. They will grow into young scientists who are inspired to learn about the world around us and to be challenged about tomorrow's global issues.

Pedagogical Principles

The Intent, implementation and impact of the Science curriculum is rooted in the pedagogical principles as set out in the Botley Teaching and Learning Policy.



INTENT

Aim

The scientific process should enable individuals and groups to develop an understanding of the physical and biological aspects of the world. An introduction to scientific methods contributes to the preparation of children for their working lives, as well as their intellectual development. We will deliver the entire Primary National Curriculum for Science as well as provide enrichment opportunities.

The Learning Experience

Principles

Botley School has agreed upon seven core principles to great teaching and learning of science:

S is for STEM (Science, Technology, Engineering & Maths) - we all enjoy it and have fun

C is for curiosity - we ask questions and make decisions about what to investigate and how

I is for investigations - we engage in hands on experiences across all investigation types

E is for equipment - we use a range of technical apparatus to develop skills

N is for new ideas - we think deeply, share thoughts, explore ideas & make discoveries

C is for context - we make links to scientific processes in other subjects & everyday life so that our work is relevant

E is for explaining - we can talk & write about our learning using scientific vocabulary

National Curriculum Aims

Key Stage 1&2

The national curriculum for science aims to ensure that all pupils:

♣ develop scientific knowledge and conceptual understanding through specific disciplines of biology, chemistry and physics

♣ develop understanding of nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them

♣ are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

IMPLEMENTATION

Science Curriculum

Science at Botley School encompasses a range of topics that are clearly linked to biology, physics, chemistry and working scientifically through practical activities and investigations. We ensure that at least one of the biology, physics and chemistry topics is covered each term within a year, along with a practical session to reinforce the learning.

Pupils should be encouraged to develop their investigative skills and understanding of science through practical activities, discussion and thought experiments (e.g. Big Ideas Time) which:

- promote at first hand the exploration of materials and events
- encourage an appreciation of the need for safe and careful action
- encourage them to question what they have done and suggest improvements
- are within their everyday experience where possible
- fulfil the requirements of the National Curriculum for Science
- cover all enquiry types, including: observation over time, pattern seeking, identifying and classifying, fair testing, research & designing a system

Development of Understanding in Early Years Foundations Stage

Science and the development of children's knowledge of biology, physics and cultural awareness supports their knowledge of the world around them. It is important that children have regular opportunities to engage with, enabling them to explore and play with a wide range of resources. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through scientific concepts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Development of Understanding in KS1 and KS2

Children will be expected to learn science for two hours in Key Stage 2 and one and a half hours in Key Stage 1, taught by the class teacher. Understanding and competence in scientific activities comes through the children's active engagement with experiences in a range of contexts in which many aspects may be involved in an integrated way.

The following attitudes should develop gradually in children through encouragement and example:

- Curiosity
- Respect for evidence
- Willingness to tolerate uncertainty
- Critical reflection
- Perseverance
- Creativity and inventiveness
- Open-mindedness
- Sensitivity to the living and non-living environment
- Co-operation with others
- Enthusiasm

Skills

Children should be actively encouraged through their science work to use the following skills:

- Manipulative skills in handling tools and materials
- Ability to measure accurately and record data
- Communicate within a group
- Communicate results to others in a variety of ways
- Make predictions, draw conclusions, make generalisations and evaluate their work
- Hypothesis and raise questions
- Identify variables and devise a fair test
- Apply learning to new situations
- Plan and perform investigations
- Observe and classify

Science should encourage an active exploration of the environment and provide opportunities for children to interact with objects and materials.

Children may be grouped, taught as a whole class or work individually. Children should have the opportunity to investigate and to work co-operatively, and to communicate their ideas and findings in a variety of ways.

Much can be gained from interesting and stimulating displays. Children should be encouraged to make use of books and other sources, and resources should be available to stimulate thought. A wide range of equipment and apparatus should be available and more importantly, opportunity to learn how to apply their use.

They should eventually become proficient in the use of:

- measuring equipment for length, weight, capacity, area.
- volume and time.
- thermometers, weather recording apparatus.
- magnifiers.
- computers and calculators.
- electrical equipment and magnets.
- light equipment, mirrors, lenses.

Findings from investigations carried out by children may be displayed in a variety of ways:

- writing up investigations.
- Worksheets.
- cloze procedure.
- simple pictures, photographs.
- before and after diagrams.
- graphs, tables and charts.
- oral presentation, tape recordings, video recordings.
- model making.
- computer output.
- dramatic representations.

Resources

A wide variety of Science resources are available in school. These include children's reference books, teachers' resource books and notes, Science materials and equipment.

Cultural Capital

Science education needs to be related to other areas of the school curriculum. Cross curricular links with other subjects, e.g. history, geography, technology, mathematics, and through the use of curriculum concepts, should be identified where appropriate, and used to foster understanding and reduce unnecessary repetition.

Aspects of the Science Curriculum will be covered in a cross curricular way through Maths, ICT, Forest School, Topic, Art and DT, Literacy and Speech and Language.

Parents and other members of the community may be able to make significant contributions to certain learning processes. In addition, visits to places of interest, relevant to study areas would enrich the children's experience. STEM ambassadors, parent visitors, resource fundraising and other activities will be advertised and arranged through the school's MyChildAtSchool account & newsletters whilst some events will be shared on the blog of the school website.

SEND & Inclusion

We are an inclusive school. As with all subject areas, delivery of Science is made to all pupils through Quality First Teaching, which considers the learning needs of all the children in the classroom. Learning and teaching will be ambitious for all and adapted to the individual needs of pupils where appropriate. Pupils who receive 1:1 support will have access to support during Science lessons where appropriate to their needs. Lesson plans will take account of the differing needs of pupils with SEND however, the school recognises that not all pupils with identified special educational needs require the same level of support in Science as they may do in other core subjects.
For pupils with English as an Additional Language, teachers will ensure key vocabulary is clearly defined and understood and provide additional support where appropriate. All classes have an Inclusion Map which includes general teaching strategies for different groups within the class based on teacher assessment and use of Bell foundation and SEND specific strategies.

Pupils being taught in the enhanced provision or in the Resource Base will access Science at an appropriate level. Whilst this is based on the units of work in the three-year rolling specialist curriculum, learning may be adapted further to match the needs identified within their EHCPs and in line with their communication needs.

Equal Opportunities

All teaching and support staff will do their best to ensure that all children, irrespective of sex, gender, ability, ethnic origin, social or physical circumstances have equitable access to the Science curriculum.

Health and Safety

Health and Safety Health and Safety is an integral part of teaching. As teachers and citizens in a dangerous world, we have a responsibility to encourage children to approach hazards in a safe way. There are few risks associated with Primary Science, but children should be taught the importance of safety and the correct way of handling tools, materials and equipment. The teaching staff are responsible for identifying any risks and hazards associated with practical science lessons and create a risk assessment as necessary. The school follows CLEAPS advice that is available on their website. CLEAPSS - Primary Children are not allowed to visit the Pond/Forest School area unless they are supervised by an adult and have read and signed the Forest School risk assessment.

IMPACT

National Curriculum: Attainment

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study

Monitoring Science

Monitoring is carried out to ensure that the subject is being delivered with full curriculum coverage, and that all pupils are making the best possible progress.

- Regular book sharing between all Year Groups.
- Lesson observations and peer coaching.
- Evidence of differentiated planning is created for the needs of each year groups.
- Evidence will also be collected through assessment data.
- Children's experiences collected through pupil voice.

Strengths and Areas for Development are outlined, and there is detailed feedback to all Year Groups following the monitoring process.

The science subject leader is responsible for the monitoring of music teaching, learning and outcomes across the school. In the event that there is no science lead, the responsibility devolves to the Senior Leadership team.
Science is monitored throughout all year groups using a variety of strategies such as planning scrutinies, lesson observations, performances and pupil interviews.

Assessment

Assessment of each child is continues throughout the year but is recorded three times a year against Science Targets and graded within year groups using Bromcom (Botley's school assessment system). Essentially this tracks whether a child's progress is Working Below the curriculum (WB) Working Towards the curriculum (WT); Working at Expected (EXP); Working at Greater depth (GDS).

Blooms Taxonomy is a useful tool for teachers as an aid to planning and assessment. It is particularly useful when considering how to adapt to ensure all children can understand and can complete tasks and also have ambition to stretch every pupil at their stage of development in science.

The science progression document enables staff to understand what pupils have learnt before, what they need to learn now and what they will learn next.

Using and Applying

Children will be encouraged to use and apply knowledge and skills in practical contexts. This would involve using a range of tools, equipment and materials to investigate scientific principles. Children are also encouraged to develop their ability to approach questions in a scientific way.

Appendices

- Science Curriculum Overview
- Science Curriculum 2024-25
- Science Progression Map
- Science in the Early Years
- Science Principles and Vision Poster